

DRAWINGS ATTACHED.

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## COMPLETE SPECIFICATION.

## Improvements in or relating to Control Mechanisms for Venetian Blinds.

We, HUNTER DOUGLAS INTERNATIONAL (QUEBEC) LTD., a Corporation organized and existing under the laws of the Province of Quebec, Canada, of 9500 St. Lawrence Boulevard, Montreal, Province of Quebec, Canada, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a unitary tilt control and slat raising-and-lowering mechanism for a venetian blind. This mechanism is characterized in that it has a rotatable and axially displaceable winding drum for a hoisting cord for the slats of the venetian blind, which drum has a threaded portion that engages in a threaded member, a tilting device for the slats of the venetian blind being provided which device is positioned co-axially to the winding drum and a slip coupling being provided between the device and the ladder tape of the blind. Said tilting device is capable of tilting in either direction through the angle of closure of the slats of the blind. A mechanism of this kind can easily be mounted in a head pipe or head rail or bar situated above the slats of the venetian blind. Rotation of this unitary tilt control and slat raising and lowering mechanism serves the purpose both of raising or lowering and of tilting the slats of the blind.

One preferred embodiment of the invention is characterized in that the tilting device is provided with a screw thread which engages in the screw thread of the winding drum, which tilting device is mounted in a support in such a way that it can rotate through the tilting angle. If desired, the screw thread may be positioned on the outer circumference of the winding drum, in which case the convolutions of the screw thread that are released in the course of axial displace-

ment of the winding drum will serve for winding the hoisting cord.

The invention will be further explained below with reference to the accompanying drawings showing by way of example an embodiment of the invention.

Figure 1 shows a mechanism partly in longitudinal section and partly in elevation, mounted in a head pipe;

Figure 2 is a cross-section taken on the line II—II of Figure 1;

Figure 3 is a cross-section taken on the line III—III of Figure 1; and

Figure 4 shows a part of Figure 1 on a larger scale.

The unitary tilt control and slat raising-and-lowering mechanism shown in the drawings also described in British Patent Application No. 10247/62 and (Serial No. 955,900) has an internally threaded cap 1 firmly fitted in a head pipe 2 which is rotatably mounted in a support 3. This pipe 2 is driven by a driving mechanism not shown in the drawings, thereby causing the cap 1 to rotate. The end of a flattened tube 4 is fixed in this cap, on which flattened tube 4 there is mounted an externally threaded winding drum 5 which is axially displaceable.

Positioned co-axially to the winding drum 5 is a tilting device 7 having over a part of its inner circumference a screw thread that engages in the screw thread of the winding drum 5. This tilting device is rotatable in the pipe 2 over such an angle that the slats in the two directions of rotation can be so far rotated as to effect good closure of the slats of the venetian blind.

There is furthermore situated in the pipe 2 an end cap 8, and there is interposed between the tilting device and the ladder tape of the blind a C-shaped spring 9 which acts as a slip coupling, the said spring 9 having two limbs 10 to which the ends of a ladder

tape 11 are fixed. Said spring 9 is arranged between the end cap 8 and the tilting device 7 and allows rotation of the hoisting drum whilst the tilting device is held stationary. Ladder cord may of course be used as alternative to ladder tape for supporting the slats of the venetian blind.

The mechanism described in the foregoing operates as follows:

When the pipe 2 is rotated, the cap 1 and the tube 4 will be rotated, whilst at the same time the tilting device 7 is turned to such an extent that a projecting part 12 thereon strikes against the end of a groove 13 situated in the support 3. On further rotation of the pipe 2 the winding drum 5 will be displaced in an axial direction on the flattened tube 4, in the course of which action the hoisting cord 6 passing through a slot 14 in the tilting device 7 is wound up in the released convolutions of the external screw thread of the drum 5. When the pipe 2 is rotated in the reversed direction the hoisting cord 6 is paid out. When the blind is entirely or partly let down, the pipe 2 is rotated in the opposite direction, the tilting device 7 being carried along with it until the slats of the venetian blind occupy the desired slanting position. The slip coupling 9 ensures that this position is maintained.

It is evident that this invention is not restricted to the embodiment described in the foregoing and represented in the drawings. Instead of being mounted in a pipe, the mechanisms may by way of alternative be mounted in an upper beam. The pipe 2 is in that case replaced by the usual driving spindle passing through the head beam.

The drum may have a projecting part

which is provided with screw thread.

#### WHAT WE CLAIM IS:—

1. A unitary tilt control and slat raising-and-lowering mechanism for a venetian blind, characterized in that this mechanism has a rotatable and axially displaceable winding drum for a hoisting cord for the slats of the blind, which drum has a threaded portion that engages in threaded member, a tilting device for the slats of the blind being provided which device is positioned coaxially to the winding drum, and a slip coupling being provided between the tilting device and the ladder tapes of the blind.

2. A unitary mechanism according to Claim 1, characterized in that the tilting device has a screw thread which engages in the screw thread of the winding drum, which tilting device is mounted in a support in such a way that it can rotate through the tilting angle in both directions.

3. A unitary mechanism according to Claim 1 or 2, characterized in that the screw thread is positioned on the outer circumference of the winding drum, wherein the convolutions of screw thread that are released in the course of axial displacement of the winding drum will serve for receiving the hoisting cord.

4. A unitary tilt control and slat raising-and-lowering mechanism for a venetian blind, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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